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## TRANSLATIONS.

### RESULTS IN TREATING DETACHMENT OF THE RETINA.\*

(TWENTY YEARS OF PERSONAL EXPERIENCE.)

By DR. A. DARIER.

Translated by Adolf Alt, M.D.

Dr. D. T. Vail,† of Cincinnati, in studying the therapeutic results in detachment of the retina, sent on May 4th, 1912, a letter to 460 American oculists asking:

(1) How many non-traumatic cases of detachment of the retina have you permanently cured?

(2) What mode of treatment do you apply?

The medical treatment applied was in most cases: locally, atropin, dionin, subconjunctival injections of a 1 to 20 salt solution, of a 10 per cent. dionin solution, of sodium saccharinate, of sugar, etc.; the general treatment was, injections of pilocarpin, iodide of potassium, bichloride of mercury, calomel, iron, tonics, salicylate of soda, purgatives, thyroid extract, etc., to which were added dark room, rest in bed, steam baths, diet, dry diet, electric baths, massage, compression bandage, leeches. The surgical treatment consisted of scleral puncture, posterior sclerotomy, retinal puncture, galvanocautery, electrolysis, scleral incision in the shape of a T, trephining, drainage, Deutschmann's operation.

Results: Of 281 writers 250 have never seen a case of cure; some noted a temporary improvement.

Here, then, are 250 oculists of name practicing in large cities, with an average experience of 20 years, who have not cured a

\*LaClinique Ophtalmologique, November 13.

†Annals of Ophthalmology, January 13.

single case of detachment of the retina. On the other hand there are 31 oculists who have obtained some cures; 25 have had only 1 permanent cure, 4 have had 2, and 2 have had 4 cures. This makes 41 cures and hardly gives 1 cure in 1,000 cases, as Vail says.

Vail's conclusions are: Having used the knife for puncturing, cautery for burning, the scissors for opening some window, the torture of the dark room, iodide of potassium, salicylates, sweats, compressive bandage, etc., is this not a barbaric treatment for obtaining 1 cure in a 1,000 cases?

These deplorable statistics, we comprehend, must strike the practitioner and drive him to complete inactivity. We must react against this pessimism. I, surely, am satisfied that I have cured more than 1 case of detachment out of a 1,000. Here is what my clinical books, especially the visual fields, reveal from October, 1893, to the 1st of October, 1913. In 20 years I have observed 108 cases of detachment of the retina; only three of these were traumatic, and all three were cured (by subconjunctival injection of salt). There remain 195 cases of myopic detachment, some of which had previously lost one eye by the same affection. 45 of these cases came only for one consultation and underwent no treatment. What became of them I do not know.

Sixty cases were treated by subconjunctival injections, scleral puncture, electrolysis, etc., 27 were not improved in spite of all therapeutic attempts.

Twenty cases showed a more or less marked improvement and kept a certain degree of vision for years with a more or less floating retina.

Thirteen cases only are entered as cured, that is their retina was completely reapplied; this does not mean that their vision was normal, because after a detachment frequently retinal and choroidal changes, often macular, remain behind which do not permit the return of normal vision, even if it was normal before the occurrence of the detachment. In fact, the detachments which were accompanied, or rather preceded by foci, and especially striæ of choroiditis, offer a better chance for a cure. In such cases the best results are obtained by subconjunctival injections of a solution of salt and cyanide of mercury, the strength of which is gradually increased while making an injection every 5 to 7 days.

(1) I have been considerably interested in following up such a case of completely cured detachment for 22 years (the other

eye had been lost previously by detachment and had a secondary cataract).

The upper half of the field had been obliterated completely; a few subconjunctival injections of cyanide of mercury brought about a complete cure.

Since this cure 22 years ago the patient comes every two or three months to ask for an injection, as soon as he sees some mouches volantes. He reads his without glasses and has  $1/3$  vision with  $-7D$ .

(2) Another patient whom I have operated on 18 years ago by electrolysis and subconjunctival injections has had her retina completely reappplied, but in the formerly detached part a degeneration has taken place which gives it the aspect of a pigmentary retinitis. Her vision is good in the larger part of her field, but the region of the former detachment gives a negative scotoma with the campimeter. To-day her vision is still  $1/3$  with  $-9D$ .

(3) Another has been cured for three years, and he might count for two, since while he was treated the other eye was affected by a visual disturbance with violet phosphenes and a small peripheral scotoma which disappeared after two subconjunctival salt injections. R. E. V. =  $2/3$  with  $-8D$ .; L. E. =  $2/3$  with  $-8D$ .

(4) A fourth patient having lost the right eye by detachment was cured of a very large detachment in the left eye by electrolytic puncture and subconjunctival injections. He remained perfectly cured for 2 years with V.  $1/2$  with  $-10D$ . Following an injury to this eye, he had a second and almost total detachment of the retina which resisted every treatment.

(5) The fifth cured patient has not been seen for 5 years. He was perfectly cured with a normal field.

The three last cases are rather recent, one being only 2 years old.

(6) The one eye had been lost by detachment, the other had only a slight fluttering of the peripheral retina, which disappeared after five subconjunctival injections of salt and cyanide of mercury. V. =  $1/4$  with  $-22D$ . Field normal.

(7) Miss D., cured for 18 months; still for safety sake receives an injection of salt and cyanide of mercury every 2 months. V. =  $1/3$  with  $-7D$ . Field normal.

(8) Finally, the last case is still under observation. His detachment has altogether disappeared after the first subconjunc-

tival injection of gelatinized salt solution. He has received 6 more and his cure has now lasted 6 months. R. E. V.=1/2 with -9D. Field normal.

(9 and 10) Two more patients might be regarded as cured. The detachment had disappeared, but in the first one enormous myopic macular lesions permitted only of V.=1/5 with -10D.

The other cured after electrolysis and subconjunctival injections regained the field for white, but his vision remained very defective. He has not been seen for 10 years.

I shall, furthermore, not speak of a case of detachment with a positive Wassermann who for two weeks has been cured by two injections of enesol.

To conclude, in these statistics of a modest practitioner of 60 detachments of the retina which were treated, 20 were improved and have conserved a more or less useful vision; 6 were perfectly cured.

It must not be forgotten that we have set aside 3 cases of traumatic detachment, because they were not myopic, which are the only really difficult ones to cure. Neither do we count 4 cases entered as cured, because we have never seen them again.

Putting aside the 3 traumatic cases, we have still 6 cures and 20 improvements in 60 cases which were treated out of 108 cases seen and whose fields were taken, 45 of whom, however, refused to submit to any treatment.

This is far from Vail's statistics, which give only one cure to 1,000 patients. Even counting only the 6 cases cured and observed to this day, we have 10 per cent. of cures, not counting either the partial improvements.

I know, of course, that it may be claimed that a cure may occur spontaneously. Just as cataracts have been seen to become absorbed, so spontaneous cures of detachment are reported.

Quite recently at the meeting of the Royal Society of Medicine, London, Harmon related a case of spontaneous and sudden cure of a retinal detachment of 3 months existence, with a myopia of 10D.

G. Goudie reports the case of a child cured equally spontaneously after 3 months, followed by a relapse and a permanent cure after two months with good vision. Batten saw a double detachment in a myope of 20D. who after 2 years regained sufficient sight to get about. Parsons, too, reported a case of spontaneous and complete cure, but with a relapse of 18 months later. McNab saw a double case of detachment of the retina spontaneously cured.

Maiz Karl in 1912, in a thesis on 65,578 cases treated at the Tuebingen Ophthalmic Clinic from 1900 to 1911, gave retinal detachment in 0.5 per cent. of the cases, 90.2 per cent. remained monolateral, 9.8 per cent. became bilateral. Most of these cases were not treated and yet a spontaneous cure occurred in 4.6 per cent. Of those treated by subconjunctival injections, rest, compressive bandage, sweats, iodide, etc., 4.4 per cent. were cured whether they happened in myopic or hypermetropic eyes.

This is certainly a disconcerting statement. Here we have 4.6 per cent. of cures without treatment, and Vail tells us that the treatments used in America gave only 1 cure in 1,000 cases. Logically we should have to conclude that treatments have caused the loss of 45 eyes, since 46 have healed spontaneously.

I believe for my part it is the wisest, and conforms most with our profession as physicians, to treat the detachments; however, never to lose sight of the rule: "*primo non nocere*."

*Therapeutic indications in detachment of the retina.*—The medical treatments should come first, since they entail the smallest responsibility. We should first place the patient to bed for about a month; compressive bandage and massage have given but poor results; leeches to the temple, dionin, eserine, pilocarpin, iodide of potassium, collyria, diaphoretics and drastica, etc., have a more than problematic action.

Surgical methods do not in all cases give very satisfactory results. They are: discission of the detached retina (von Graefe), simple scleral puncture (Ware, Sichel, Wolfe, Parinaud), aspiration or drainage of the subretinal fluid (Galezowski, De Wecker), iridectomy or sclerectomy (Dransart, Boucheron, Galezowski, Bettremieux), intraocular injections of iodine (Schoeler, Abadie), of salt, air, etc. (Birch-Hirschfeld, Rohmer), ignipuncture (De Wecker, Dor, Chevallereau), electrolysis (Abadie, Terson), discission of the fibres of the vitreous body, and transfixion of the detached retina with or without intraocular injections of rabbit's vitreous body (Deutschmann). In spite of the number of variety of methods, the lasting cures of retinal detachment are very rare and this explains the reticence of a great many practitioners.

Uthoff of 422 cases of detachment which came to him treated only 85 and of these 18 were cured; 10 after medical and 8 after surgical treatment. Of 351 cured cases reported in literature, he notes 31 per cent. spontaneous cures, 45 per cent. by medical and only 24 per cent. by surgical treatment. These statistics are little encouraging for the surgeon; but it must not be

forgotten that the cases submitted to surgical interference are those which have previously resisted medical treatment.

According to the opinion of all practitioners, this treatment brings no danger to the patient, nor any fear of complication for the physician. We can advise the following in perfect security:

A myope of more than 6 dioptries (it will be the same for a traumatic detachment, only in such cases the prognosis is much more favorable) presents himself with the detachment of one-third or one-quarter of the retina, which has quite recently taken place. (If there is a detachment of more than half of the retina, the prognosis will be very guarded, especially if the detachment is old.)

The first duty will be to order the patient to lie on the back as uninterruptedly as possible with a slightly compressive bandage; but the more urgent thing to do is to make at once a subconjunctival injection of salt, which is well borne and almost painless if the following precautions are taken:

(1) The salt solution must be aseptic.

(2) A 1 per cent. solution of acoin or better yet, the gelatinized acoin serum recommended by Belencontre in 1910 and which I have used ever since because it is somewhat difficult to prepare the acoin solutions and because the addition of 30 per cent of gelatine has seemed to me to have a favorable action as well on the detachment as on the hæmorrhages.\*

The first injection may be made with the simple gelatinized acoin serum, and if it does not cause too vivid a reaction, the next morning one or two-tenths of the syringe of a 20 per cent. salt solution may be added to the acoin serum. This would give 2 per cent. or 4 per cent. of salt solution in the serum. As soon as the reaction caused by this second injection has about passed (2 or 3 days), a third one is made with an increase of the salt solution and so on finally up to 6 per cent. Personally, I very rarely inject solutions with more than 10 per cent. of salt. Because these injections are very painful and cause a violent reaction, we can add 0.005 to 0.01 of dionin, and afterwards have two leeches or a Heurteloup applied to the temple. The stronger the solution the more the chemosis and œdema are marked, and the greater must be the intervals between the injections (from 5 to 8 days).

I may here say a few words as to the technique of the sub-

\*This serum can be had at Pelloile's pharmacy, 2 Faubourg St. Denis, Paris, in sterilized ampoules, containing Acoin, 0.0015; Fish glue, 0.03; Isotonic serum, 1 cc.

conjunctival injections. I have given them an uncounted number of times in the last 22 years and yet I am always struck by the surprise of the colleagues who see me make them. They say they have never known the perfect ease and simplicity of this intervention which they have practiced with apprehension only.

The technique is of the simplest: No other instrument is needed but a Pravatz syringe armed with a curved platinum iridium needle, 28 to 30 mllm. long and well pointed. The needle is flamed before each injection. Of course the syringe and solution must be sterile. The patient need not lie down, nor need he be frightened by a speculum or forceps. The most important part is to cocaine the eye well by 3 instillations 10 minutes apart. The injection must not be made sooner than 25 minutes after the first instillation.

The patient seated in a chair is to direct his eyes forcibly downward and the operation pushing the upper lid backwards with the left thumb, uncovers the whole upper and outer conjunctival surface of the globe. The needle is then guided superficially between the lid and the globe with its convexity forwards so that it hugs the convexity of the eyeball; the point is slightly held away from the eyeball until the cul-de-sac is reached, then by a slightly rotating motion the needle passes through the conjunctiva and then is pushed more and more deeply so that the injected fluid gets behind the æquator of the eye.

Thus one avoids that the injected fluid detaches the vascular pericorneal circle and produces affections of the cornea and causes those conjunctival escharas which have been pronounced as due to badly made injections. When it is necessary to inject more considerable quantities of fluid (massive injections of 2 to 3 cmm., Jones) we must be very careful to penetrate with the needle as far as possible into the retrobulbar tissue. I should not recommend to try and penetrate into Tenon's capsule; it is more useful to inject farther back near the apex of the orbit.

The subconjunctival injections must not be repeated too often; we must always permit nature to perform her work of reconstruction. As long as there remains any chemosis or swelling of the eyelid, unless there are urgent indications, it is best to wait.

After each injection a slightly compressive bandage is applied, having first made several instillations of atropin because the pupil must be carefully watched. The slightest iritic sign shows that the reaction is too strong and may lead to synechiæ, which must be avoided. In such a case the interval between injections

must be increased, leeches must be applied, atropin instilled, etc. Dionin instilled every 8 days will have a beneficial effect.

Usually, after the first and second injection a well pronounced improvement, sometimes even an apparently complete cure, is observed. But we must not stop the treatment, because the re-application of the retina must become consolidated and the patient should be watched continually, so that he does not commit any imprudent action and does not try to get out of bed too soon. The treatment with the patient on his back should be continued for at least one month, with an increasing interval between injections.

If, on the contrary, after the first injections little or no improvement takes place, the prognosis is more serious, yet one must not despair. Then the dose of the salt should be increased and its action be augmented by the application of leeches or cupping, by sweats provoked by hot drinks (*jaborandi*), by injections of pilcarpin, or by a mixture containing salicylate, being careful not to produce nausea and vomiting.

We must also consider the occasional cause of detachment. The myopia is only the predisposing cause. If we find a positive Wassermann a general antisyphilitic treatment is commanded and the subconjunctival injections must be made with a mercurial salt (cyanide). The following formula will be useful:

Cocain, hydrochl. ....	0.50
Cyanide of mercury .....	0.05
Sodium chloride .....	2.00
Sterile water .....	100.00

Of this a cubic centimetre is injected under the conjunctiva every 4 or 5 days.

When, however, a positive tuberculin reaction is obtained the treatment must be directed accordingly. Hypodermic injections of tuberculin have given Dor and von Hippel very encouraging results. Subconjunctival injections of tuberculin cannot be recommended. Thus far they have given no great satisfaction to those who have used them. It is better in the local treatment to be content with salt injections.

In detachments which are severe on account of their age or extent we may first try subconjunctival injections, but they are usually without effect. We may then try simple puncture or Deutschmann's transfixion without or with injection of vitreous body, salt solution, or sterilized air; but it will be well not to use any of these surgical procedures without having informed the patient of their gravity and great risks.

## OBITUARY.

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JOHN GREEN, M.D.

1835-1913.

On December 7th, Dr. John Green died at his residence in St. Louis from pneumonia. He was in his 79th year, having been born at Worcester, Mass., on April 2d, 1835.

A pioneer in ophthalmology, he has lived and practiced in this city since 1866, and at the time of his death was its oldest ophthalmologist.

His long life was one of great usefulness and full of activities. For many years he enjoyed a very extensive practice. In spite of oncoming age and infirmity he worked in his profession with unaltered devotion up to the day on which he was stricken.

He was a scholar in the full sense of the word, having stored up a vast knowledge, not only in his chosen specialty and medicine at large, but even in fields lying apparently totally outside of his professional sphere.

Having studied with Donders in his early career, his, as it seems, inborn special interest in the problems of refraction and accommodation, had received a further impetus, so that he devoted a large part of his work to the study of these subjects. In consequence of this and the scrupulous exactness on which all his scientific utterances were based, he was recognized as one of the foremost authorities in these questions. His test cards were and are used all over the world, although their originator has sometimes been forgotten by men who appropriated them. Numerous papers by him on these subjects are to be found in the Transactions of the American Ophthalmological Society and elsewhere. Even his last paper published in this Journal, "On coquille protective spectacles," shows that such mathematical problems engaged his mind up to the end.

In his literary work, which was done with great care, he was always clear and convincing.

He was a skilled operator, and in the earlier years of his practice here he evolved the operation for entropium, which goes by his name and which he made known to the profession at the International Congress of Ophthalmology in 1876. When he later found out that the main points of his method were considerably older than he had known and could be found described

as far back as in Celsus and Paulus Aegineta, he not only did not hesitate to inform the profession on this subject, but went even so far as to have the pages photographed on which these earlier descriptions were to be found (Vols. I and III, this Journal).

In this as in the other of his numerous publications, some of which were even written in the German language, he showed himself a man of keen observation, sharp criticism and an almost exaggerated accuracy as to detail.

With his well-rounded-out education, scholarly attainments, knowledge and skill, he could not have failed to gain a large practice even if he had not come to this city as a pioneer in a comparatively new field. At it was, the good John Green has been able to do to his fellow man was for many years limited only by the fact that the day had but 24 hours.

The poor and rich alike thronged his waiting room and blessed the great physician and his skillful hand which restored to them that most precious gift, sight.

While it was not his way to let the left hand know what his right hand did, we all know how great his charity was.

With all his work, he was ever of a cheerful spirit. He enjoyed his existence most in the company of good friends and was an admirable host. He took a great interest in general in science, literature, music and the other arts, history, archaeology, the drama; in fact he had an open mind for everything furnishing higher enjoyment in the hours he could spare from his work.

Being so well versed in so many diversified subjects, he was an inspiration to those who came in contact with him and especially to the men who studied under him. He was an excellent debater and entertainer, with whom to converse was a pleasure and a delight. Especially was this shown in the meetings of the St. Louis Ophthalmological Society, whose presiding officer he was since its formation and in which he took a great delight to give to the benefit of its members as much as he could from his great store of knowledge, filled with a memory of details which even his age did not seem to impair.

That a man of such a character should have been a prominent member and a leader in many societies and gatherings of scientific men, here and abroad, is but natural, as is also, that the honors, such societies could bestow, were his in many instances. He was also given honorary degrees by the Washington University of this city, and by the University of Missouri.

John Green was in everything a conscientious man, and what after due deliberation he considered right he did not hesitate to uphold and, if necessary, to fight for.

As a friend he was of the best, most loyal and faithful, ever ready to even go out of his way to help a friend with counsel and deed.

There are many who can never forget him on this account. We, who have known him closer and have worked with him, surely cannot forget him. His death has left a gap which cannot be filled any more for his friends and science, than for his immediate family.

ALT.

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EDWARD NETTLESHIP.

1845 to 1913.

Edward Nettleship died October 30th. Science, and in particular British Ophthalmology, has suffered another heavy loss.

Nettleship began his work in ophthalmology in 1868 as assistant to Hutchinson, at Moorfields. In 1871 he was appointed Curator and Librarian. In 1873 was given charge of an isolation school for poor trachomatous children.

Later he was one of the staff of the South London Ophthalmic Hospital, and Ophthalmic Surgeon to the Hospital for Sick Children, Great Ormond Street.

In 1878 he was appointed Ophthalmic Surgeon to St. Thomas's Hospital and Lecturer at the Medical School. Later on, having resigned this position, he was appointed Consulting Ophthalmic Surgeon.

In 1882 he was made Assistant Surgeon and in 1887 Surgeon to the Royal London Ophthalmic Hospital, Moorfields, which position he held until 1898.

In these positions he showed himself an excellent surgeon and a very successful teacher. His scientific work was of the highest character. His papers are chiefly to be found in the Ophthalmic Hospital Reports and in the Transactions of the Ophthalmological Society of the United Kingdom. He was one of the founders of this Society. In the last years of his life, having retired from active practice, he devoted most of his time to the investigation of heredity in eye affections. His text-book on Diseases of the Eye saw a number of editions and was very popular, being in its time the best text-book in Great Britain.

## MEDICAL SOCIETIES

### SHORT REPORT OF THE IX. ANNUAL MEETING OF THE HUNGARIAN SOCIETY OF OPHTHALMOLOGY.

Held at Budapest September 7th and 8th, 1913.

By L. v. LIEBERMANN, JR., M.D.,  
Assistant at the I. University Eye Clinic.

The Chair was first occupied by Dr. E. von Grósz, later by Dr. J. von Imre, sen.

#### FIRST DAY.

(1) *The Wilhelm Schulek Lecture.*—J. von Imre, sen.—*On the fate of anisometropic eyes.*—Based on examinations made on a large material, especially school children, the author showed that the full correction of anisometropic eyes is not only possible in the large majority of cases, but advisable in the interest of binocular vision and of normal muscular balance. In many cases methodical exercises for binocular vision have to be combined with it. This opens a wide field for the activity of the school physician with the necessary preliminary education.

(2) *E. Pólya.*—*Surgical Treatment of choked disk.*—On account of the rapidly developing loss of vision, choked disk always demands operative interference, which, when an accurate localization is possible, should be by a radical operation, or if not—and this will be the fact in most cases—by decompressive trephining. The author has performed the radical operation in 4, the decompressive trephining in 18 cases.

(3) *L. von Liebermann, Jr.*—*The diagnosis of foreign body injuries to the eye and the indication and technique of magnet extraction, with special reference to accurate localization.*—The accurate localization by Roentgen rays by means of specially constructed apparatus is the most important aid in diagnosis and indication in foreign body injuries to the eye. The author uses Sweet's method and proves its reliability in a number of cases. The locality, size and form of the foreign body thus found, influence to a large degree the technique of operation and by its means the two chief types of giant magnets, Haab's and the inner pole magnet, are given their special indications. (This paper will appear in the *Arch. f. Augenhlk.*)

(4) *E. von Gróss.*—*Basal iris excision against glaucoma.*—Lagrange's and Elliot's sclerotomies seem to be most successful when they are combined with excision of the periphery of the iris, and not when a complete iridectomy is performed. The author has made a series of basal iridectomies with preservation of the sphincter muscle and the results were good. This operation is well founded in theory, since by preserving the sphincter, miotics can still contract the pupil and free the filtration angle.

(5) *B. Spányol.*—*Fat transplantation after evisceration of the globe* (with demonstration of patients).—This operation is to be recommended in all cases in which the danger of sympathetic ophthalmia is absent, instead of enucleation. The fat is best taken from the gluteal region. This implanted fat is partially absorbed, partially replaced by new connective tissue. The cosmetic effect is better than after fat implantation into Tenon's capsule after enucleation and much better than simple enucleation.

(6) *M. Mohr and S. Beck.*—*Papillitis as an early symptom of lues.*—The author confirms Japha's statement, that in a large percentage of the syphilitic newly born and sucklings optic neuritis is found. Of 128 syphilitic sucklings examined, 62 had with certainty papillitis; in 19 this was doubtful. In 47 cases there was nothing abnormal.

Papillitis is often the only early symptom and is pathognomonic.

(7) *I. Waldmann.*—*The diathermy in ophthalmology* (with demonstration of patients).—Diathermy is a valuable therapeutic agent in different chronic inflammatory affections of the eye, especially in iridocyclitis and parenchymatous keratitis. The main point is that with diathermy the temperature of the interior of the eye can be raised considerably (1 to 1.5 degree). This is impossible with warm applications, thermophores, etc.

#### DEMONSTRATIONS.

1. *M. Mohr.*—Patients treated with neosalvarsan.
2. *E. Pólyo.*—Operation of congenital ptosis by free transplantation of fascia.
3. *L. Vermes.*—(a) A case of congenital distichiasis. (b) Neurofibroma ganglionare multiplex orbitæ (specimen).

4. L. von Liebermann, Jr.—(a) New international test cards (for Hungary).

(b) Instrument to hold bifocals before the eye.

(c) Intraocular cysticercus.

(d) Congenital ptosis operated on after Eversbusch.

(e) Enucleation and fat implantation into Tenon's capsule.

(f) Albuminuric retinitis in pregnancy cured by abortus.

5. B. Spanyol.—Instrument to measure the distance of lenses.

6. J. von Imre, Jr.—(a) 2 cases of partial aplasia of the oculomotor nuclei.

(b) Tower skull with cerebral hernia.

#### SECOND DAY.

(1) L. Polyák.—*On intranasal dacryocystotomy* (with demonstration of patients).—The author was the first to recommend and perform the opening of the chronically inflamed tear sack from the nose with the formation of a broad communication à la Toti. A flap of mucous membrane and periosteum is removed, then the frontal process of the superior maxilla and the lacrimal bone are chiselled off until the medial wall of the lacrimal sack is visible, which is now wholly removed. The author has operated in this manner on 42 cases, several of whom he presented.

(2) J. von Imre, Jr.—*The operation of scars which adhere to bone* (with demonstration of patients).—Scars at the temporal end of the infraorbital margin due to tubercular periostitis can be permanently loosened from their fixation by fat transplantation. The author explained his method and presented several cases operated upon who showed a good cosmetic effect. (This paper will appear in German.)

(3) A. Rados.—*On the development of complement binding antibodies after treatment with homologous tissue cells and remarks on the anaphylactic origin of sympathetic ophthalmia.*—The author sums up the results of his experiments as follows:

The isoantibodies after immunization with homologous choroidea gave, besides with choroidea, also with cornea and kidney tissue as antigen, a complete inhibition of hæmolysis. Cornea and kidney sera acted similarly.

The antisera produced in rabbits gave also with heterologous antigens (ox cornea and ox choroidea) a complement fixation.

From this it follows that the isoantibodies formed with homologous cornea, choroidea and kidney tissue are not specific for the kind or organ.

These results contradict Elschmig's theory of sympathetic ophthalmia, according to which it is due to autoanaphylaxy produced by the organ specific destroyed uveal pigment. (Has appeared in *Zeitschr. f. Immunitätsf.*, XIX, p. 579)

(4) G. Ditrói.—*The orthopædic treatment of convergent strabismus.*—Orthopædic treatment alone is in place in low grade and recent strabismus (about to 10 degrees). With higher degrees of strabismus it leads to success only when combined with operation, and is usually necessary in these cases in order to complete the effect, or rather secure it. It is, of course, necessary to correct the often anisometropic error of refraction most accurately. High grade amblyopia (up to 5/50) forms no obstacle to the exercises. The latter are made in the following manner. The first object is to produce binocular vision; with one-sided amblyopia this is best done with Krusius' amblyoscope. Then fusion must be brought about by means of the afterimages. Meanwhile the exercises for the monocular amblyopia must be continued. When fusion has been established its amplitude must be devolped. This is best done with Dählfeld's stereoscope. Finally the perception of depth must be exercised.

(5) I. Markbreiter.—*The relation of astigmatism to the total refraction of the eye and the accommodation.*—The author tries to prove by mathematical deductions that the total astigmatism of the eye is increased during accommodation and to such a degree that it can in practice not be neglected.

He, also, showed mathematically why with different refraction it is not possible to correct the total astigmatism in the same manner. (It is impossible to give a short résumé.)

(6) I. Markbreiter.—*On the rhinological importance of the enlargement of the blind spot.*—Based on the examination of 100 cases of inflammation of the accessory sinuses, the author contradicts the opinion of van der Hoeves and de Klejns, that by means of the enlargement of the blind spot a differential diagnosis is afforded between purulent inflammation of the anterior and posterior accessory sinuses. He found the same symptom both in purulent inflammation of the anterior and of the posterior sinuses.

While contralateral eye changes in general were often observed, also, bilateral eye changes with monolateral empyema, and vice versa, the earliest symptom was most frequently an enlargement of the blind spot on the same side. This is of diagnostic value. The author further stated that enlargement of the blind spot as a more frequent early symptom than a central scotoma.

(7) *J. Davidovics.*—*Serological studies on eye patients.*—The author reports his results of the Wassermann reaction made in about 150 cases of eye diseases.

The result is that the reaction seems to be even more of diagnostic value in eye diseases than in other diseases, since syphilitic eye affections give almost always a positive and very rarely a negative reaction. A negative result, therefore, speaks with great probability, although not certainty, against a syphilitic affection, much more so than is the case in the statistics of other affections. This fact may, perhaps, be explained that in order to produce eye affections a special degree of virulency of the syphilitic virus is necessary, which influences the chemismus of the organism to a higher degree.

It is especially dwelt on that inflammations of the choroid give a positive Wassermann in a very small percentage, which shows that tuberculosis plays a greater role in choroiditis than has hitherto been accepted.

(8) *L. von Blaskovics.*—*On Kugel's operation.*—The author has performed Kugel's operation for the removal of the tarsus of the lower lid for senile ectropium in 5 cases, twice in conjunction with the Kuhnt-Symanowski shortening of the lid, and is satisfied with the results of this combination, since Kugel's operation alone is not quite satisfactory.

As to the explanation of the manner of its action, the author does not agree with the originator of this method. The removal of the tarsus alone cannot relieve the ectropium, since the thickening of the tarsus is the consequence and not the cause of the senile ectropium. The effect can be explained much better by the strengthening of the musculus subtarsalis. The fibres of the orbicularis which run along the lower margin of the tarsus are the antagonists of the subtarsalis, since they press the convex edge of the tarsus against the eyeball and thus tend to remove the lid margin from it. By the removal of the tarsus the point of fixation for these fibres is removed, and thus the muscular fibres of the lid margin are indirectly strengthened.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OPHTHALMOLOGY.

A meeting of this Section was held on Wednesday, November 5th, 1913, Sir Anderson Critchett, Bart., F.R.C.S., President of the Section, in the Chair.

Mr. Sydney Stephenson showed a case of brawny scleritis at an early stage, which Mr. Treacher Collins thought was a tenonitis. He had had a case of this condition, which persisted for a long time, as had this one. Mr. Holmes Spicer reminded the meeting of a case with a similar appearance which he showed at a former meeting, under the title "solid œdema of the conjunctiva." That, however, had a syphilitic origin, which, apparently, was not the case here. Dr. Deighton Davies spoke of a case under his care with a similar appearance. A small portion examined showed round cells without a stroma. He enucleated, and on bisecting the globe, found a darkly pigmented sarcoma. He suggested the present case was sarcoma.

Mr. J. L. Barley showed a case of keratitis punctata, and Mr. Killick one of persistent hyaloid artery.

Mr. A. S. Cobbledick showed an example of ectasia of the cornea four years after a perforating wound; and a case of rupture of the choroid in a myope following labor. The latter case he regarded as unique.

Mr. Bishop Harman showed a patient with a new growth causing detachment; and Mr. George Coats exhibited a dog with keratitis. Mr. Chatterton showed a case of tubercular iritis, in order to elicit opinions as to the value of tuberculin injections for the condition. Mr. Browning said he had treated a number of such cases with tuberculin, and he knew of no case in which hæmorrhage had followed its use. The French believed the hæmorrhages which occurred were of tubercular origin. Mr. Mayou stated that he had treated numerous cases of tubercular iritis with tuberculin, and had not seen hæmorrhages during the treatment; there was absorption of the nodules, and subsidence of the iritis. It was the most successful treatment. He commenced with 1/10,000th, and worked up to 1/250th T.R. Where there was lung trouble also, a very small dose caused severe reaction, and it should be given very cautiously. Mr.

Macnab said he had recently treated two cases in this way, and both did very well. Mr. Arnold Lawson gave confirmatory experience.

Mr. Parsons showed a central unilateral retinitis, and Mr. Hugh Thompson a case of choroiditis starting as a ring round the macula.

THE LATE MR. NETTLESHIP, F.R.S.

The President made sympathetic reference to the death of Mr. Edward Nettleship, which was a loss not only to the Society, but to the world of ophthalmology. Though evidently in failing health, his mental vigor was such that he took part in the discussions at the recent Congress of Medicine. The speaker's father and Mr. Bowman had the highest opinion of Mr. Nettleship's pathological knowledge in the early days, and that opinion had been amply justified since. A resolution of condolence with his relative was carried by members upstanding.

Mr. G. Coats read a paper in which he reported some examples of disease in the animal eye. He described a form of keratitis characterized by the presence of a superficial vascular opacity of the cornea. The disease was of long duration, and had no evident association with distemper or other general illness. It sometimes occurred in more than one member of the same litter. Pathologically, it consisted in a replacement of the superficial layers of the cornea by a layer of inflammatory tissue. The human condition which it most nearly resembled was trachomatous pannus, but it differed from that disease in the absence of follicles, and of scarring or distortion of the lid, as well as by its not being confined to the upper part of the cornea. A case of retinal degeneration following distemper was described. The retinal changes were peculiar in that it was the bipolar cells of the inner nuclear layer which were chiefly affected, the ganglion cells showing only slight, and probably secondary, changes, the outer layers being mostly intact. In places, however, the rods and cones and their nuclei were also atrophied. These changes were probably to be explained by the presence of a circulating toxin with a specific affinity for the retinal bi-polars, analogous to the specific action of nicotine on the ganglion cells.

A description of some cases of choroido-retinal degeneration and inflammation was prefaced by a discussion of the pathological points of distinction between these two conditions. A pro-

found atrophy of the retina without adhesion to the choroid must be a degeneration. In old-standing cases of degeneration, however, an adhesion between the two membranes occurred, but it was usually not very intimate; the line of demarcation remained well defined, and the elastic lamina of the choroid was intact. The occurrence of cicatricial tissue was certain proof of precedent inflammation, and where it was present, the adhesion was dense and the layers of the choroid and retina were distorted and disorganized, instead of being merely atrophic. A degeneration was often fairly uniform over a considerable area, an inflammation was patchy.

Examples of choroidal-retinal degeneration in a dog, raccoon, wolf, wild sheep, ferret, wallaby and hyæna were shown. The raccoon appeared to be an albino, yet a little pigment was present in the epithelium of the ciliary body and anterior part of the choroid, showing that pure albinism could not be diagnosed without a microscopical examination. The raccoon also showed nystagmus, a condition occasionally described in the lower animals. A case of choroiditis, cyclitis, and keratitis in a bear, and one of anterior choroiditis in a peccary were also illustrated. Two instances of canine irido-cyclitis were reported. The first was of plastic type, and was peculiar only in its occurrence in the dog, in which animal the condition appeared to be rare; the second, also in a dog, was characterized by an enormous thickening of the iris, due to infiltration with mononuclear cells of a special type. Posterior synechiæ and other features of plastic iritis were absent. The cause of the irido-cyclitis was obscure in both instances.

The paper was discussed by Mr. Treacher Collins, Mr. Lawford, Mr. Sewell (veterinary surgeon), Mr. Rayner Batten, Mr. Bishop Harman, Mr. Holmes Spicer, Mr. Lang, Mr. Cruise, and the President, and Mr. Coats replied.

Mr. Charles Wray read a paper on "Obstruction of the Lacrimal Duct and its Treatment." He believed it was a mistake to remove the sac when syringing failed, without attempting to cure by means of styles, or styles and probing combined, and thought it was not unlikely that ectropion and its sequelæ might follow excision. Too much was heard of the satisfactory and immediate results, but too little of bad ones and of recurrences. After referring to the danger of adrenaline and chloroform when used at the same time, stress was laid on Harrison Butler's

operation. According to the author, all cases of epiphora should be rhinoscoped, though he admitted he had received little or no help from the rhinologist. The author treated his cases in the following way. He injected cocaine by Mellen's method, and instilled a drop into the conjunctival sac. A Bowman's probe was then passed into the sac, and the point pushed forward under the palpebral ligament. He then cut down the guide, taking care to note the click of the knife on the probe. So far, the procedure was quite painless. He then placed crystals of novocaine in the sac, and had recourse to probing. At times, if the stricture was impermeable, he forced a passage through the posterior wall of the duct. A piece of strapping was then placed just below the sac, so that the style did not press on the skin. A special style—gold-plated, and obtainable from Courlander, of Croydon—was then passed, and the latter was so constructed that when a piece of strapping was placed on its arms it could not move. Whilst it was *in situ*, argyrol 5 per cent. was used three times a day, or such other application as might be desirable. Later, when a firm-edged fistula had formed, the patient was instructed to irrigate the sac three times a day, passing the style at night, and taking it out in the morning. To cure the fistula it could be dilated, and whilst stretched, all the cicatricial tissue cut away, after which the edges of the wound were brought together and covered with collodion. He proceeded to criticize the operations of Toti, Eichen and West. The first of these consisted in making a large open window between the sac and the nose, and as the nose in cases of lacrimal obstruction was so very often diseased, the operation, in his judgment, could scarcely receive the approval of ophthalmic surgeons. Also the patient experienced considerable annoyance on blowing his nose, and the operation provided no vertical tube like the duct, to carry a flow of tears opposed to the entry of organisms to the sac.

Eichen side-tracked the tears to the antrum, i.e., converted this cavity into a pool of stagnant tears. It also had the same objection as those urged against Toti's operation.

West's operation was for obstruction low down in the duct, and consisted in removing its nasal wall. It was better than the two foregoing operations, as some of the duct was left, but it had the serious objection that autolavage and autoprobing were impossible. The aim of the operation was to make a permanent fistula in the middle meatus, but the task of making one is

erectile or semi-erectile tissue in a canal, the size of a crow-quill, was almost impossible; but in the event of the duct being kept open by constant probing via the nose, or canaliculus, the erectile tissue would be so damaged that a fibroid stricture would be bound to follow. He said his object was not so much to attract attention to his own operation, as to obtain a formal expression of opinion as to the value of the newer operation of Toti, West, and Eichen.

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## ABSTRACTS FROM MEDICAL LITERATURE.

BY J. F. SHOEMAKER, M.D.,  
ST. LOUIS, MO.

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### METASTATIC OPHTHALMIA.

REPORT OF THREE CASES, ONE OF WHICH RESULTED IN RECOVERY  
OF VISION.

William H. Wilder (*Jour. A. M. A.*, September 27, 1913, Part 2) reports three cases of metastatic ophthalmia, one in which both eyes were involved, with loss of vision in both, the patient dying twelve days after the infection of the eyes, from general sepsis. The trouble evidently arose from a purulent cystitis. *Bacillus coli communis* were found in cultures from the urine and *staphylococcus aureus* from the blood. In the second case the trouble began with a severe attack of tonsillitis, followed by a suppurative otitis media. Some weeks later one eye became involved and the vision of this eye was destroyed, the globe becoming shrunken. *Streptococcus* seemed to be the germ responsible for the trouble. The third case followed an attack of pharyngeal diphtheria. The ocular trouble seemed to be limited mostly to the anterior portion of the eyes and after the prompt use of antitoxin, together with subconjunctival injections of salt solution, recovery ensued with normal vision in both eyes.

Concerning the aetiology of this condition, the author points out the fact that since the introduction of antiseptic methods in obstetrics and surgery it is met with much less frequently and

that the cases that occur now are largely cryptogenetic in character or follow some infectious disease. The prognosis is not only bad as to the eyes, most of them having the vision destroyed if not the globe, but also as to the life, the mortality being high in these cases, especially when both eyes are attacked. The death rate ranges from 21 per cent. in the unilateral cases to 85 per cent. or more in the bilateral cases.

#### THE PATHOGENESIS OF CHRONIC UVEITIS, EXCLUDING THE SYPHILITIC, TUBERCULOUS AND SYMPATHETIC VARIETIES.

G. E. de Schweinitz (Pamphlet, giving Report read before the Section on Ophthalmology of the Seventeenth International Congress of Medicine, London, August 6-12, 1913) discusses this subject at some length, deriving his material from:

1. An analysis of some of the most important literature published during the past ten years.
2. A collective investigation of the views and experiences of American colleagues in this and allied diseases of the uveal tract.
3. A study of so-called gastro-intestinal auto-intoxication in relation to these affections.

The following general conclusions are offered:

Inasmuch as acute articular rheumatism (rheumatic fever) is rarely, if ever, a cause of iridocyclitis (uveitis) and inasmuch as various types of myalgia (muscular rheumatism) and polyarthritides are in largest measure not strictly rheumatic affections, it seems advisable to discontinue the term 'rheumatic iritis', or 'iridocyclitis', and to substitute for it some title which does not commit us to an unproven ætiologic factor. Thus far the one suggested by Mr. T. Harrison Butler, to-wit, 'autotoxæmic iritis', although not a definite one, seems best to fulfill the indications.

Uveitis (iritis and iridocyclitis) occurring in the subject of various forms of polyarthritides is doubtless due to the same cause which creates the joint affections; what the cause is thus far has not been discovered. Similar ocular affections in the subjects of various myalgias (muscular rheumatism) should probably be regarded as manifestations of the same infection or toxæmia which causes the muscle and fibrous-tissue pains and lesions, and, although the so-called rheumatic diathesis has been brought forward as an ætiologic factor in this disease, in the absence of definite knowledge concerning its pathogenesis, a

more explicit statement as to its causation, and therefore as to the causation of the iridocyclitis with which it may be associated, cannot be made.

Evidence is lacking that the relationship between gout and various diseases of the uveal tract (uveitis, iridocyclitis) should be abandoned, in that no satisfactory proof has been presented that the same cause which produces the various manifestations of gout, for example, eczema, joint lesions, etc., may not also produce a chemic inflammation of the uveal tract. It is not unlikely that diabetes, but much more rarely, can be accused in the same manner.

There is satisfactory evidence, clinic and bacteriologic, that the majority of cases of uveitis (iridocyclitis) are caused by micro-organisms or their toxins. Potent in this respect (omitting those excluded from this discussion) the gonococcus and the staphylococcus are conspicuous. Other bacterial elements doubtless may play a similar role.

That the gonococcus is the cause of many cases of iritis and iridocyclitis is unquestioned, and that it is the cause of many cases ordinarily classified as 'rheumatic' is undoubtedly true; that it may be the cause of chronic insidious uveitis, especially as it occurs in women, has not been definitely proved, but it cannot be entirely excluded from the list of those micro-organisms which are potent factors in this disease.

The primary source of infection from which the staphylococcus proceeds and reaches the uveal tract, there to create an inflammation, in all probability most frequently is a chronic septic process in the mouth (pyorrhœa alveolaris), in the tonsil, in the naso-pharynx, in the accessory nasal sinuses, in the intestines, in the uterine cavity, in the skin (boils, furuncles, etc.).

It is probable that in most instances the living bacteria reach the uveal tract, and by their presence and their elaborated toxins bring about the various types of inflammation which are classified under the general term 'uveitis', the process being a non-suppurative one on account of the modification which these bacteria undergo in their passage through the blood-streams.

Although the term 'inflammation', as ordinarily defined and conceived, comprehends a pathologic condition characterized by the presence of bacteria at the site of activity, there is much evidence to show that lesions possessing all the fundamental characteristics of similar lesions which result from the immediate action of living bacteria can be brought about by bacterial toxins,

and that in these lesions there is nothing to suggest that in the course of their development bacteria were immediately present (Abbott). Therefore, while proof may be lacking that bacterial toxins circulating in the blood are capable of causing localized inflammations of the uvea, proof is equally lacking that such is not the case. Indeed, we are not justified in denying that these toxins have this power, unless we are also willing to reject the theory of specific combining affinities.

As it is possible to speak intelligently of auto-intoxication only when poisons are formed by the tissues of the body itself, that is within the metabolism, and are not introduced through specific bacterial infections, and as we have no accurate knowledge of these toxins, it would seem wise to discontinue the term 'gastro-intestinal auto-intoxication', although freely admitting that gastro-intestinal intoxications of bacterial or parasitic origin are potent sources of infection.

Although indican, when found in excessive amounts in the urine (indicanuria) is an index of intestinal putrefaction, its absence does not prove that a gastro-intestinal intoxication is not present, nor is it proper to depend upon the presence of this substance alone for information in these respects. If after thorough analysis urobilin, phenol, increase in the percentage of ammonia output, excess of fatty acids, and increase of conjugate sulphates above 200 mgm., etc., are determined, intestinal putrefaction dependent upon the activity of bacteria on the food-stuffs in the intestines has been demonstrated. These analyses do not in any way prove that any toxic substance elaborated in the course of a so-called gastro-intestinal auto-intoxication, that is, a toxin formed within the metabolism, can by its toxic properties produce a uveitis, but they do prove the bacterial activity to which reference has been made, and indicate a source from which these bacteria or their toxic products may proceed and cause an inflammation of the uveal tract, exactly as bacteria or their toxins from other foci have a similar influence. In this sense, therefore, gastro-intestinal intoxications have a definite right to be included among the ætiologic factors of uveitis.

Chronic insidious uveitis, especially as it occurs in women, who are often anæmic, is in all probability most frequently excited by bacteria or bacterial toxins which have come from foci or chronic sepsis, particularly in the mouth, the tonsils, the sinuses, the pelvis, and the gastro-intestinal tract.

While indicanuria certainly has not been proved to have the

relationship to the development of certain types of chronic and relapsing uveitis (iridocyclitis) that has been given to it by some writers, there is good reason, as Elschnig insists, to study patients with these diseases of the eye from the metabolic standpoint. This study, however, should not be confined to the ordinary tests for indican in the urine, but should include a thorough investigation of the patient's metabolism. It is probable that such studies may eventually lead to the establishment of a definite group of diseases of the uveal tract called into existence by infections of bacterial origin arising in the intestinal tract.

#### A NOTE UPON ESSENTIAL OILS IN THE TREATMENT OF IRIDO-CYCLITIS.

Arthur Zorab (*The Ophthalmoscope*, July, 1913) finds the essential oils of cinnamon, cloves and peppermint of material assistance in cutting short attacks of iritis and irido-cyclitis. Although not sure it has any advantages over the other oils the writer generally administers the oil of cinnamon. It is always given in capsules after eating and in doses varying from two minims three times daily to four minims every four hours. Gonorrheal cases respond very well to this treatment but the most marked results are obtained in those cases where the aetiology of the trouble is obscure, such as might be attributed to oral or intestinal sepsis, etc. Obstinate cases of scleritis and interstitial keratitis have also responded to this treatment very well.

#### SYMPATHETIC OPHTHALMIA.

Prof. A. Elschnig (*Trans. Am. Academy of Oph. and Oto-Laryn.*, 1912) points out the weak places in the different theories that have been advanced to explain the cause of sympathetic ophthalmia, especially the migration theory and the metastasis theory, showing that they fail to explain some of the facts pertaining to this condition. He advances another theory which he calls the anaphylaxis theory and which he thinks explains the conditions found in sympathetic ophthalmia. According to this theory any injury or disease of an eye whereby the uveal tissue is damaged may cause a resorption of the uveal tissue and pigment in antigenic form and antibodies are set free in the blood,

thus sensitizing the uvea not only of the injured eye but of the second eye also. Any auto-intoxication or constitutional anomalies present at the time or occurring subsequently may act as the remaining factors in the aetiology of sympathetic ophthalmia. He says:

All the appearances in the picture of sympathetic ophthalmia which cannot be explained by the previously mentioned theories are easily understood on applying the anaphylaxis theory. They are as follows:

1. The time interval between the inflammation of the first eye and the sympathetic inflammation of the second eye. For the formation of antibodies, through the resorption of an antigen in an animal's body, at least ten days are required, for anaphylaxis, likewise about twenty days are necessary. This explains why the sympathetic inflammation has an incubation period of at least fourteen days, and why it occurs most often within four weeks after the trauma. Again it explains why eyes that are enucleated at any time for prevention of sympathetic ophthalmia almost never show the anatomic picture of the sympathizing inflammation. If my theory is correct, then both uveas must be sensitized at the same time, and the picture of anaphylactic inflammation occurs at the same time in both eyes. In other words, the anatomic picture of the sympathizing inflammation only occurs in an eye which has been enucleated on account of the fear of sympathetic ophthalmia, when the second eye is already involved—a fact which is clearly shown by the cases of Fuchs.

2. If after a long interval of time a sympathetic inflammation arises, a fresh anaphylactic inflammation occurs always in the first eye. It is evident that a constitutional anomaly or an auto-intoxication may only at a late date effect an antigenic resorption of uveal tissue with sensitizing of both uveas, or produce the inflammation of the sensitized uvea tissue.

3. My theory of sympathetic ophthalmia explains how sometimes in the second eye there may develop a pronounced sympathetic inflammation a few days after the enucleation of an eye, which shows the anatomic changes of the exciting inflammation in the early stage. In this case both eyes are suffering from the same inflammation, but in the second eye it was not yet sufficiently developed to be clinically manifest. It explains, moreover, why the sympathetic inflammation of the second eye may occur still some little time after the enucleation of the exciting

eye. For while the source of the production of antibodies against uveal tissue is done away with by the enucleation, sufficient antibodies remain in the body for the sensitizing of the second eye.

4. My theory also shows why enucleation of the exciting eye has no special effect on a sympathetic ophthalmia already established.

5. It explains why a sympathetic ophthalmia never follows after panophthalmitis. In panophthalmitis the uvea tissue and pigment is not slowly damaged as in chronic cases of iridochoroiditis, but totally destroyed, and therefore cannot give the cause for production of antibodies against uveal tissue, and cannot produce a sensibilization of the fellow uvea. It is well known that also after parenteral injection of the very prominent antigen, as typhus bacillus, there never results the production of antibodies, if the injection becomes suppurative.

6. The anaphylactic theory explains why neurotomy and neurotomy are of no value as measures to prevent sympathetic inflammation, since the formation of antibodies is thereby not interfered with, nor is sensitization prevented.

7. My theory shows that exenteration of the bulb is of equal valuation with enucleation for the prevention of sympathetic ophthalmia—provided it is carefully done. It is known how exceedingly early in an injured eye the sympathizing inflammation may extend to the orbital cell tissue. This must prove to the advocates of the bacterial theories that the infective agent of sympathetic ophthalmia invades the orbit. How can they explain that enucleation has any value to prevent sympathetic ophthalmia if they leave after enucleation microorganisms in the orbital tissues? And does not also exenteration always leave behind bacteria in the sclera, and yet it is as good for prevention of sympathetic ophthalmia, as enucleation? The anaphylactic theory, however, makes it clear that alone the removal of the uveal tissue is the desideratum, and that this is accomplished by an exenteration of the bulb as well as by enucleation. The few cases of sympathetic ophthalmia which recently have been reported as occurring late after exenteration have shown by the anatomic examination, that uveal tissue was left behind in the scleral capsule. The break-down products of this tissue could have sufficed for the anaphylactic sensitization.

8. Further, the anaphylactic theory explains without any difficulty those cases of sympathetic ophthalmia after non-perforating wounds, as well as after sarcoma of the uvea, which cannot be satisfactorily explained by the mycotic theories. In fact, the frequent occurrence of sympathetic ophthalmia after blunt traumas, subconjunctival traumatic rupture of the sclera, and sarcoma of the chorioid, where there is only a breaking down and not a suppuration of the delicate uveal tissues, is in my opinion of weighty support to my theory.

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#### NOTICE.

At the end of February, 1914, a new Ophthalmic Journal is going to be published by A. Bielschowsky (Marburg), A. Elschnig (Prag), E. Hertel (Strassburg), E. von Hippel (Halle), F. Schieck (Koenigsberg) and A. Siegrist (Bern). It will be edited by W. Krauss (Marburg). The name will be "*Zentralblatt fuer die gesamte Ophthalmologie und ihre Grenzgebiete.*"

Its object will be to furnish the ophthalmologist with a full report on his whole practical and scientific field of labor. There will be single references as well as critical collective reviews by well-known and competent writers, so that it will form a complete annual report on ophthalmology. It will appear every two weeks, about two volumes per year of 600 to 700 pages. The price of each volume will be 25 marks.

It will be published by Julius Springer, Berlin W. 9, Lingstr. 23-24, to whom subscription should be addressed.

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